ORIGINAL

BEFORE THE

Federal Communications Commission

WASHINGTON, D.C. 20554

In the Matter of	)	
	)	
Amendment of the Commission's Rules to Establish New Personal Communications Services	)	General Docket No. 90-314
	)	
	)	

To: The Commission

COMMENTS OF
THE AMERICAN PETROLEUM INSTITUTE

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SUMMARY

API applauds UTAM for taking a positive first step in the design and implementation of a reasoned transition plan for the unlicensed PCS band. UTAM's proposal, however, raises several issues which must be resolved prior to any Commission final grant of approval to UTAM to proceed with transition activities. API remains pledged to cooperation with UTAM and U-PCS interests to ensure a smooth transition, but the critical telecommunication systems of incumbent fixed licensees must not be compromised during the process.

API is concerned that UTAM's proposed funding plan may be overly conservative and could lead to situations where incumbent licensees are unable to operate systems satisfactorily due to PCS deployments, and are also unable to receive adequate short term funding for the migration. UTAM should either revise its cost estimates upward or demonstrate that it has "contingency funding" on hand to cover any insufficiency of relocation funds.

UTAM also should propose a procedure for multiple link system negotiations, because many fixed microwave links operate as parts of large scale systems. It will create great inconvenience and unnecessary costs for fixed

licensees to engage in multiple negotiations with UTAM for fragmentary relocation of system links.

Prior to any deployment of non-coordinatable "nomadic" U-PCS, UTAM must submit its proposals in that regard. Specifically, whether guard bands or other interference preclusion methods are used to promote early deployment of nomadic devices, introduction of nomadic operations must be allowed only after UTAM secures amendment of the Commission's rules or following an opportunity for public comment and formal FCC approval.

For coordinatable U-PCS devices, a more enforceable deployment scheme for "Zone 1" areas and a more detailed frequency analysis method for "Zone 2" system deployments should be proposed, reviewed and approved by the Commission. Otherwise the potential for objectionable interference to fixed operations during the transition remains high. Additionally, UTAM should further delineate its dispute resolution proposals prior to their final approval.

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The American Petroleum Institute ("API"), by its attorneys, pursuant to the invitation extended by the Federal Communications Commission ("FCC" or "Commission" or "Agency") in its Public Notice[1/] in the above-referenced proceeding submits the following Comments for consideration by the Commission. In accordance with the Commission's Public Notice, these Comments address API's concerns with the Unlicensed PCS Ad Hoc Committee for 2 GHz Microwave Transition and Management ("UTAM") plan for financing and management of the 2 GHz unlicensed PCS microwave system relocation (hereinafter, the "UTAM Plan").

1/ Public Notice, DA 94-873, (August 11, 1994).

I. INTRODUCTORY STATEMENT

1. API is a national trade association which represents approximately 300 companies involved in the oil and gas industries, whose activities include exploration for and production, refining, marketing and pipeline transportation of petroleum, petroleum products and natural gas. API's member companies hold authorizations from the Commission to operate numerous telecommunications facilities including point-to-point microwave systems which operate in the 2 GHz microwave bands. These facilities support exploration for and production of oil and natural gas. These facilities also provide essential telecommunications support which helps ensure the safe pipeline transportation as well as the processing, refining and ultimate delivery of natural gas, crude oil and refined petroleum products.

2. Since the inception of this proceeding, API has participated in every phase of the 2 GHz relocation process. API's members are concerned that the transition of the 2 GHz microwave spectrum to PCS services proceed in a manner which will not adversely impact the safe and efficient production and delivery of the nation's energy sources. While API believes that the recommended UTAM Plan is a positive step toward the implementation of an efficacious transition to

unlicensed PCS operations in the band 1910-1930 MHz, API remains concerned about several details of the plan and urges the Commission not to provide final approval of the UTAM Plan until the issues raised by API in the following Comments have been satisfactorily resolved.

II. COMMENTS

3. API is pleased to note that UTAM has attempted to provide a full "blueprint" for the transition activities for unlicensed PCS, and that UTAM will attempt to raise sufficient funding to "make whole" those fixed facility licensees who vacate their current spectrum assignments. Moreover, API is pleased to see that UTAM will ensure coordination of unlicensed PCS devices during the transition period in an effort to minimize interference to incumbent fixed operations.

4. Nonetheless, as would be expected with any plan devised to perform such a large scale and technologically complex function, the plan raises several issues which must be resolved prior to Commission adoption of the plan. Specifically, API has concerns about the financial aspects of the plan, as well as the proposed unlicensed PCS device coordination system and nomadic U-PCS deployment plan. API

is also concerned about UTAM's dispute resolution approach. API's reservations on these issues are enumerated below.

A. UTAM Must Ensure That Adequate Funding Will Be Available for Relocation Prior to FCC Approval of the Plan

5. API has serious reservations about UTAM's relocation cost calculations. Apparently UTAM is convinced that it will likely be responsible for no more than 50% of the cost of relocation of incumbents from in-band assignments since each of the links in the unlicensed band is paired with a link in the licensed PCS band.[2/] UTAM notes that in some cases it will be required to relocate a link before the PCS licensee needs to clear the licensed half of the channel pair and, absent a cost sharing agreement, UTAM will have to pay the entire cost of moving the link. However, UTAM believes that the number of links so affected should be comparable to those that the PCS licensees will need to move first and accordingly, UTAM and PCS licensees will likely each fund one-half of the total relocation cost for the U-PCS band.[3/]

2/ UTAM Plan at 28.

3/ Id.

6. API is concerned that UTAM has employed overly optimistic cost sharing estimates which may create errors in UTAM's actual migration cost projections. UTAM's assumptions on cost sharing between UTAM and licensed PCS service providers are not fully supported in the plan and it is quite possible that insufficient transition funding will result. To date, API has seen no evidence that licensed PCS interests will construct systems in every market on a timetable that will track U-PCS deployment. Indeed, it is unlikely in all but the largest urban markets that such deployment symmetry will be present. Accordingly, cost sharing agreements with licensed PCS interests may be difficult for UTAM to negotiate, and UTAM may face the prospect of having to bear significant initial transition costs, and obtain future reimbursement from licensed PCS interests at a point well after fixed system migrations occur. This scenario could leave incumbents facing a migration demand without UTAM having sufficient funding to pay for the move and with no money forthcoming in the short term from licensed PCS providers.[4/]

4/ Transition funding concerns have been expressed by the Personal Communications Industry Association ("PCIA") with regard to licensed PCS deployments because fixed microwave links may operate on frequency pairs which "straddle" frequency boundaries between licensed PCS spectrum blocks. PCIA has asked that the Commission establish a plan to ensure that where such situations occur, a means of

(continued...)

7. The Commission must require that UTAM either recalculate its cost estimates and revise them upward considerably or, alternatively, demonstrate that it has a "contingency fund" on hand which would cover any insufficiency of relocation funds. Additionally, API is concerned that the UTAM proposal does not provide certainty as to the number of manufacturers who have made "up front" financial commitments to UTAM. Nor is the total dollar amount of those commitments disclosed. UTAM should be required to demonstrate firm financial commitments from its manufacturer members to defray initial startup and early transition costs.

8. API also has concerns about how UTAM will handle relocation of incumbent licensees should UTAM prove unable to adequately control deployment of unlicensed PCS devices. In the event that unlicensed devices prove highly popular at an early stage, financial pressures from system users could force vendors to deploy unlicensed devices prior to

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4/(...continued)
assurance is provided that both licensees will help defray incumbent relocation costs. See Petition for Partial Reconsideration of PCIA, General Docket No. 90-314 (July 25, 1994). Similarly, the cost sharing problems between licensed and unlicensed PCS interests must be addressed by UTAM to ensure that adequate transition funding will be available.

clearance of those devices by UTAM. For example, a wireless PBX may be sold which would have a given number of associated mobile units. A customer's demand for rapid system expansion could create deployment of a greater number of mobiles than authorized without prior notification to UTAM.

9. Such instances may occur and create situations where fixed licensees are forced to vacate an area ahead of UTAM's buy-out schedule. To deal with this situation, UTAM must establish a contingency plan by which relocation or interference mitigation costs could be paid quickly to all affected fixed licensees. UTAM should be required to set aside a reserve of capital, to guarantee coverage of all costs to incumbent licensees where uncontrollable deployment of unlicensed PCS devices forces them to relocate immediately.

B. UTAM Should Propose a Procedure for Multiple Link System Negotiations

10. UTAM states that its funding plan would allow complete relocation of incumbent microwave licensees from the unlicensed spectrum band in an estimated five to eleven

year time frame.[5/] While API understands that UTAM is unable to state with absolute certainty the revenues which it will realize to defray relocation costs, or to predict a relocation timetable with absolute certainty, API notes that a lengthy clearing period will exacerbate technical difficulties and escalate expenses in the relocation process.

11. More particularly, many fixed microwave links operate as parts of large scale systems and it could prove quite inconvenient and costly for fixed licensees to engage in multiple negotiations with UTAM over a multi-year period for fragmentary relocation of system links. API believes the public interest would be served by implementation of a specific plan by UTAM to address this issue and to offer a procedure for negotiation with each licensee for coordinated relocation of facilities compromising "systems" which operate on U-PCS frequency assignments.

5/ UTAM Plan at 44.

C. Deployment of Non-Coordinatable "Nomadic" U-PCS Must Occur Only Subject to the FCC's Rules

12. UTAM reports that it is investigating options to allow early deployment of non-coordinatable or "nomadic" U-PCS devices prior to final clearing of the unlicensed spectrum band.[6/] In order to promote nomadic device deployment, UTAM will begin the band clearing process with frequencies closest to 1920 MHz, creating a "wedge" of cleared interior frequencies for such deployment prior to clearing of the entire U-PCS band.[7/] UTAM also states that it is exploring facilitation of this process through the use of guard bands. UTAM states that any such deployment of non-coordinatable devices prior to final band clearance would be performed in a manner consistent with the Commission's rules and UTAM's obligation to prevent interference to fixed microwave links.[8/]

13. API is pleased to see that UTAM will promote deployment of nomadic devices only in accordance with the FCC's rules. API notes that the Commission's rules do not

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6/ UTAM Plan at 55.

7/ Id.

8/ Id.

permit any deployment of non-coordinatable U-PCS until band clearing is complete or until such time as the FCC determines that the risk of interference to remaining incumbents is highly unlikely.9/ The Commission's rules do not provide UTAM with authority to begin nomadic device deployment activity absent Commission review. Accordingly, API submits that any method -- including guard bands -- used to promote early deployment of nomadic devices prior to band clearing must be employed only after UTAM secures further amendment of the Commission's PCS rules or following an opportunity for public comment and formal FCC approval.

D. Problems Exist with UTAM's Deployment Proposal for Coordinatable U-PCS Devices

14. API remains uncertain about several aspects of UTAM's "dual zone" proposal to deploy non-nomadic unlicensed PCS devices. UTAM states that following the preparation of interference assessment analyses depicting the interference environment in the U-PCS band for each county of the United States, UTAM would allow virtually unrestricted deployment of unlicensed PCS devices in "Zone 1" areas, subject to a

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9/ 47 C.F.R. § 15.307(a)(c) at Appendix A, page 9 of Amendment of the Commission's Rules to Establish New Personal Communications Services; 8 FCC Rcd 7700 (Second Report and Order).

county-by-county "cap" on the number of such devices that may be operated in the zone. The cap would consist of a maximum noise threshold figure which, if met by the aggregate output of unlicensed devices in the zone would not permit further U-PCS unit deployment.10/

15. It is unlikely that all U-PCS vendors and users will stop selling or deploying additional devices in an area once U-PCS systems have gained acceptance. Accordingly, API believes that the cap should be set at the noise level significantly below the maximum that could be allowed without creating interference to existing fixed licensees. For example, it is not unrealistic to expect that U-PCS systems may add additional mobile units as businesses and systems using such systems expand. In these instances, vendors and equipment suppliers may not always report for verification purposes every system expansion within a given zone. Therefore, the zone cap could be exceeded without UTAM's knowledge, and serious interference problems could result. A significant "safety margin" should be incorporated into each market cap to ensure that unreported deployments will not create objectionable interference. Additionally, the "Zone 1" U-PCS distribution approach is

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10/ UTAM plan at 62.

totally dependent on all vendors and users respecting UTAM's instructions concerning further sales and use of devices in a given zone. This system could prove difficult to enforce because UTAM may be unable to accurately determine whether an interfering U-PCS device had been sold and engaged in the zone prior to UTAM's "stop deployment" order. Accordingly, the "Zone 1" deployment approach should be modified to incorporate a reasonable safety margin to ensure adequate interference protection.

16. Where incumbent microwave licensee activities are more significant, UTAM proposes to label such areas "Zone 2" and to allow deployment of U-PCS devices only where specific site coordination shows that no interference will be caused to incumbent receivers.[11/] UTAM has proposed a site-specific coordination model for U-PCS deployment in "Zone 2" areas which will follow standard coordination models and procedures (i.e., those of the FCC and Bulletin 10-F) with "adjustments for the unique needs" of unlicensed PCS.[12/] UTAM has not offered full details of the adjustments which would be made in its engineering analyses nor has it proposed a specific analytic method by which such

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11/ UTAM Plan at 63.

12/ Id.

coordination will be performed. In any event, the final coordination methodology adopted for "Zone 2" deployments, must be "open" as prescribed by the FCC's rules and TIA Bulletin 10-F, including specific prior coordination notices to potentially affected fixed licensees.

17. Until such time as a more enforceable deployment scheme for "Zone 1" areas and a detailed frequency analysis method for "Zone 2" system deployments may be proposed, reviewed and approved, the potential for objectionable interference to fixed operations remains high. API is committed to cooperation with UTAM and U-PCS interests in the resolution of these difficult issues prior to the actual deployment of U-PCS systems and devices. API is hopeful that through active cooperation of incumbent fixed licensees and U-PCS proponents, final agreements may be reached which will allow the public to receive both the benefits of timely U-PCS availability as well as the enhancement of the public safety afforded by interference-free fixed system operations during the transition process.

18. UTAM also proposes a means to verify the locations at which "coordinated" U-PCS systems are initially installed

and to which they may later be relocated.[13/] In order to meet this obligation, however, UTAM proposes to allow manufacturers to develop their own mechanisms or procedures for enabling UTAM to make such verifications.[14/] While UTAM agrees that it will pass upon the sufficiency of such mechanisms within its review and certification that an applicant for equipment authorization is a participating UTAM member, UTAM does not make clear that it will have specific control over location verification procedures for actual system deployments.

19. This approach could create unnecessary problems for UTAM particularly in determining the true aggregate power level of U-PCS devices deployed in each zone. It would be more practical to require use of a standard verification procedure rather than to allow ad hoc procedure development by each manufacturer. Nevertheless, should the Commission approve UTAM's discretionary location verification process proposal, the Commission should require that where a manufacturer proposes to modify its verification process after receiving initial UTAM approval,

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13/ UTAM Plan at 65.

14/ Id.

the new process must be submitted to UTAM and the FCC for separate review and approval. In this context, the Commission should make the location verification process part of the equipment certification in order to better ensure that no changes in the process would be made without FCC approval.

20. UTAM has suggested that remotely located fixed equipment which is part of a larger U-PCS system be exempt from having its own independent disablement system, so long as the remotely located fixed equipment is inoperable at distances greater than 8,000 meters from the main fixed unit of the system.15/ In locations classified Zone 1 which exhibit extremely limited fixed microwave activity, this approach may prove workable. However, in locations where the presence of microwave systems mandates a "site specific coordination" 8,000 meters can create a vast differential in the outcome of an engineering study. The Commission is reminded that under present engineering standards, site specific means +/- 100 feet. The 8,000 meter approach is not workable unless engineering studies presume that the U-PCS transmitting equipment could be located anywhere within an 8,000 meter radius of center coordinates. It is unlikely

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15/ UTAM Plan Attachment F.

that U-PCS interests would want to be held to such an assumption for all Zone 2 deployments. A better solution may be to allow the proposed exemption, but to reduce the figure to a more reasonable value of 300-400 meters, which will cover most building or small campus situations. Remote fixed equipment capable of operating at greater distances than the 300-400 meter range should be required to have independent disablement facilities.

21. With regard to mobile units to be deployed with U-PCS systems, API believes that UTAM must be able to demonstrate that any movable part of a coordinatable unlicensed PCS system will cease all transmission when the average signal to noise radio (for voice operations) or bit error rate (for data operations) crosses a pre-determined usable threshold. In summary, when a PCS system device becomes unable to communicate with the base system, it should simply turn off and become incapable of reactivation until it returns within operational range of the base facility. The UTAM mobile unit disablement approach leaves open the possibility that mobile units may stay on long after they have exhausted their usable range or perhaps may activate and transmit in response to a fixed unit operated by a party other than their own. A pre-determined non-operational threshold approach will preclude such unintended

and potentially interfering operation, thereby reducing interference concerns during the transition of the U-PCS band from fixed operations.

E. Methods of Interference Dispute Resolution Should Be Further Clarified.

22. The UTAM plan provides little specific information about how UTAM will resolve interference complaints. API requests that UTAM propose a specific interference resolution procedure providing details on point of contact, time frames for resolution and other information necessary for incumbent licensees to properly evaluate and comment upon the interference resolution methods to be employed by UTAM.

23. Additionally, API notes UTAM's admission that performance of its obligations under the Plan will give rise to various disputes. Those disputes could involve UTAM and fixed microwave licensees on issues such as failure of relocation negotiations, inadequacy or failure of relocated facilities and general interference complaints.[16/]

16/ UTAM Plan at 69.

24. API applauds UTAM's commitment that it will conduct all relocation negotiations in good faith and scrupulously comply with the FCC's requirements for full cost compensation and the provision of comparable alternate facilities to displaced fixed licensees. API agrees that UTAM involvement of the FCC as a forum for dispute resolution should be a last resort. Nevertheless, it is incumbent upon UTAM to further delineate its dispute resolution proposals prior to their final approval. Because of timing difficulties, use of alternative dispute resolution processes could create situations in which incumbent licensees who have legitimate migration disputes could be required to make large scale system changes on an expedited time frame and under tremendous pressure. API seeks assurances that specific dispute resolution methods and extended timetables, where necessary, will be available.

III. CONCLUSION

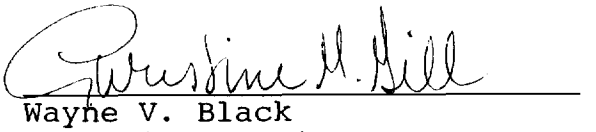
25. API applauds UTAM for taking a positive first step toward a reasoned transition plan for the unlicensed PCS spectrum. API is in general agreement with the overall direction of UTAM's proposal. Several important issues remain unresolved however, and API urges the Commission to ensure that these issues are addressed prior to granting any

final approval to UTAM to proceed with transition activity. API reminds the Commission that the concerns of incumbent fixed licensees are primarily motivated by a concern for the level of safety with which potentially hazardous industrial, transportation and other vital functions may be performed.

WHEREFORE, THE PREMISES CONSIDERED, the American Petroleum Institute respectfully requests the Federal Communications Commission to act in a manner consistent with the views expressed herein.

Respectfully submitted,

THE AMERICAN PETROLEUM INSTITUTE

By: 

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Dated: September 12, 1994

CERTIFICATE OF SERVICE

I, Terri Thomas, a secretary in the law firm of Keller and Heckman, do hereby certify that a copy of the foregoing Comments of the American Petroleum Institute has been served this 12th day of September, 1994 by hand delivery to the following:

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